

**PORTLAND VETERANS AFFAIRS MEDICAL CENTER  
SUBCOMMITTEE ON ANIMAL STUDIES (PVAMC SAS)  
ANIMAL CARE AND USE GUIDELINES**

**CHECK ONE:**

- ☐ I agree to comply with the following guidelines.
- ☐ I have attached written justification for deviation from these guidelines.

\_\_\_\_\_  
Principal Investigator

\_\_\_\_\_  
Date

**GUIDELINES FOR TAIL TISSUE COLLECTION FOR GENOTYPING**

**Background:** Procedures that are expected to cause more than momentary pain or distress in a human being require that anesthetics or analgesics be administered when performed in animals (USDA Policy 11). Because the removal of tail tissue for genotyping from mice may be considered a painful procedure, the following guidelines are established to assist investigators with the selection of methods to alleviate pain or distress and to assist investigators in determining the appropriate pain category.

**Guidelines.**

- 1) In mice greater than 10 days of age, a maximum of 1 cm of tail total may be removed for genotyping. Anesthetics are not required. Analgesic agents are required if tail removal exceeds 0.4 cm, and these animals will be classified as category D. If genotyping can be performed using a maximum of 0.4 cm of tail, then analgesics are not required for this procedure, and these animals will be classified as category C. Appropriate analgesic agents include:
  - Morphine: 5-10 mg/kg body weight SC or IP
  - Buprenorphine: 0.2 mg/kg body weight SC or IP
  - Butorphanol: 0.05-0.1 mg/kg body weight SC or IP
  - Isoflurane: to effect
  - EMLA cream: apply topically at least 15 minutes prior to procedure
- 2) If the investigator wishes to be exempted from the analgesia requirement, when tail removal exceeds 0.4 cm, written scientific justification must be provided to the IACUC. If the IACUC approves the exemption, analgesics may be withheld and the genotyped animals will be classified as Category E.
- 3) Mice younger than 10 days of age are difficult to safely anesthetize or sedate. In these animals, analgesic and anesthetic agents are not recommended. A maximum of 0.4 cm of tail may be removed for genotyping. These animals will be classified as Category C.
- 4) If additional tail tissue is required for subsequent genotyping (e.g. RFLP analysis), an additional 1 cm of tail may be removed once, for a total of 2 cm of tail collected. If additional tail collection beyond this 2 cm is required, scientific justification must be provided to the IACUC for discussion and approval. Appropriate analgesics must be administered as described in item 1.

- 5) In all cases, a sharp pair of scissors or blade must be used to perform the procedure. The instrument(s) must be disinfected between animals to prevent cross-contamination of animals. Heat sterilization (using alcohol and flame or a hot bead sterilizer) or “cold” sterilization (using a quaternary ammonia compound and rinsing with sterile water or saline) are acceptable methods. Care should be taken to ensure that the instruments remain sharp and sterile during collection.
- 6) After completing the tail snip, the tail tip should be sealed in warm wax (taking care not to burn the tail) to prevent cannibalism after return to the cage.